CLAIMS:

[0043] 1. An apparatus for processing a microelectronic workpiece having a front side, a back side and an edge, comprising:

a chamber;

a fixture in the chamber for holding a workpiece; and

at least one sonic transducer at one side of the chamber and positioned relative to the fixture so that the transducer is adjacent to the edge of a workpiece placed in the fixture.

2. The processor of claim 1, wherein the back side of the microelectronic workpiece is spaced within .25 inches of a bottom wall of the chamber.

3. The processor of claim 2, further including at least one transducer at the bottom wall of the chamber and located underneath the back side of the microelectronic workpiece.

4. The processor of claim 1, wherein the fixture is rotatable within the chamber.

5. The processor of claim 4, further comprising a motor coupled to the fixture.

6. The processor of claim 1, wherein the chamber is made of PTFE.

7. A method for processing a microelectronic workpiece having a front side, a back side, and an edge comprising the steps of:

contacting the front side, back side, and edge of the microelectronic workpiece with a first processing fluid;

rinsing and drying the microelectronic workpiece;

contacting the back side and edge of the microelectronic workpiece with a second processing fluid while preventing the second processing fluid from contacting the front side of the microelectronic workpiece; and

introducing sonic energy to the microelectronic workpiece during at least one of the contacting steps.

8. A method for processing a microelectronic workpiece having a front side, a back side, and an edge comprising the steps of:

placing the microelectronic workpiece into a chamber;

immersing the front side, back side, and edge of the microelectronic workpiece within a first processing fluid while rotating the microelectronic workpiece;

rinsing and drying the microelectronic workpiece;

immersing the back side and edge of the microelectronic workpiece with a second processing fluid while rotating the microelectronic workpiece such that the front side of the microelectronic workpiece is not exposed to the second processing fluid; and

rinsing and drying the microelectronic workpiece.

9. The method according to claim 8, further comprising the step of introducing vibrational energy to the chamber during the step of immersing the microelectronic workpiece within the first processing fluid.

10. The method of claim 9, wherein the vibrational energy is introduced adjacent to the edge of the microelectronic workpiece.

11. The method of claim 9, wherein the vibrational energy is introduced adjacent to the back side of the microelectronic workpiece.

12. The method according to claim 8, further comprising the step of introducing vibrational energy to the chamber during the step of immersing the microelectronic workpiece with the second processing fluid.

13. The method of claim 12, wherein the vibrational energy is introduced adjacent to the edge of the microelectronic workpiece.

14. The method of claim 12, wherein the vibrational energy is introduced adjacent to the back side of the microelectronic workpiece.

15. The method according to claim 8, wherein the first processing fluid includes a reactive agent selected from the group consisting of H_2SO_4, HF, and TMAH.

16. The method according to claim 8, wherein the second processing fluid comprises a mixture of HF and H_2O_2.

17. The method of claim 8, further comprising the step of rotating the microelectronic workpiece during one or both of the rinsing and drying steps.

18. The method of claim 7 where the first processing fluid is substantially non-reactive with copper and the second processing fluid is highly reactive with copper.

19. The method of claim 7 wherein the workpiece comprises a semiconductor wafer including copper components.

20. An apparatus for processing a workpiece comprising:

an upper rotor engageable with a lower rotor to form a workpiece processing chamber;

at least one inlet extending into the processing chamber;

a fluid outlet leading out of the workpiece processing chamber, to allow removal of fluid from the chamber by centrifugal force generated by rotating the processing chamber; and

a valve at the fluid outlet, for opening and closing the outlet.

21. The apparatus of claim 20 wherein the inlet is in the upper rotor.